Cumberland Fossil Plant

CUMBERLAND CITY, TENNESSEE

QUICK FACTS

Commissioning Date: 1973

Output: 2,470 Megawatts (16 billion kilowatt-hours)

Number of homes powered: 1.1 Million

Wet to Dry / Dewatered Conversion Program: Complete for fly ash and gypsum. Bottom ash dewatering tank-based solution scheduled for 2019

TVA Wide CCR Conversion Program Total Spend: Approximately $1.3 Billion

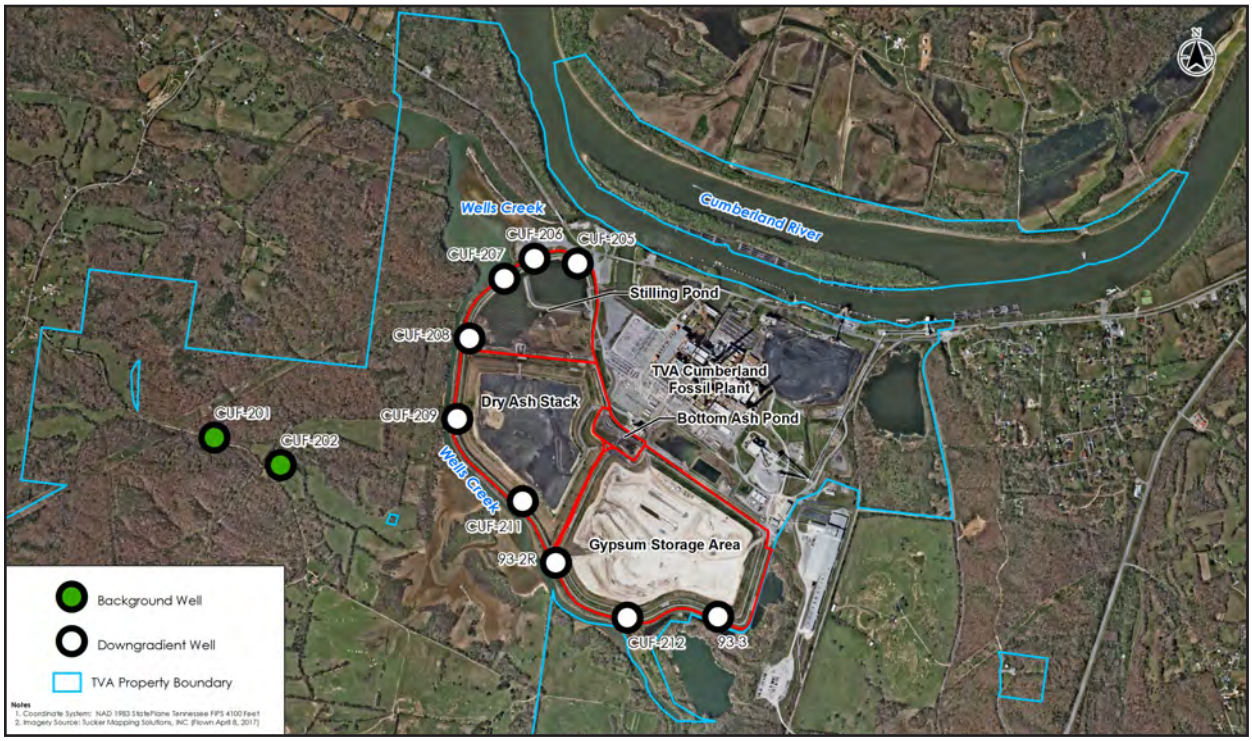
EPA CCR RULE GROUNDWATER MONITORING

This fact sheet summarizes groundwater monitoring conducted by TVA as required by the U.S. Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) Rule. The EPA published the CCR Rule on April 17, 2015. It requires companies operating coal-fired power plants to study whether constituents in CCR have been released to groundwater. This fact sheet addresses the EPA CCR Rule groundwater monitoring only.

In addition to ongoing groundwater monitoring required under State regulations, TVA enhanced the monitoring well network at the Cumberland Fossil Plant to comply with the CCR Rule requirements. Additional wells were installed around the CCR management units as needed and TVA implemented a baseline sampling program. After completion of the baseline sampling, the CCR Rule requires TVA to begin monitoring groundwater in a step that is called “Detection Monitoring”. The constituents specified by the CCR Rule for Detection Monitoring are boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS). These seven constituents occur naturally in soils, rock, groundwater and surface water, and they are also present in coal and in CCR. They were selected by EPA because they can indicate groundwater conditions that may require further evaluation.

EPA CCR RULE GROUNDWATER MONITORING NETWORK FOR THE CUMBERLAND FOSSIL PLANT

TVA installed “background wells” in locations that are not expected to be affected by the management of CCR. Other wells were drilled around the edge of the areas where CCR is managed or were already existing and being monitored. These wells are sometimes referred to as “downgradient wells” and placed in locations to monitor for releases to groundwater. The locations of the wells are shown below.



EPA CCR RULE DETECTION MONITORING RESULTS FOR CUMBERLAND FOSSIL PLANT

The EPA CCR Rule requires that TVA study the laboratory results each time groundwater samples are collected during Detection Monitoring. TVA studied the results from the first set of groundwater samples collected during Detection Monitoring using methods specified by the CCR Rule. Concentrations of CCR constituents in downgradient wells were compared with concentrations in the background wells, which may have naturally occurring concentrations of CCR constituents. If the concentrations in downgradient wells are higher than concentrations in the background well, then that means that a release of CCR constituents to groundwater may have occurred.

TVA prepared an annual groundwater monitoring report for the Cumberland Fossil Plant that includes the results of the comparison of downgradient wells to the background well. The report can be found by clicking on the following hyperlink www.tva.gov/ccr. The initial comparison of downgradient wells to upgradient wells shows that concentrations of boron, calcium, chloride, sulfate and TDS around the CCR management units may be greater than naturally occurring levels. Data does not reflect the quality of public drinking water supplies, which are regularly tested to confirm they are meeting safe drinking water standards.

NEXT STEPS FOR CUMBERLAND FOSSIL PLANT CCR RULE GROUNDWATER MONITORING

In accordance with the CCR Rule, TVA will further evaluate the groundwater on the Cumberland Fossil Plant. The next step is to complete a study called an “Alternate Source Demonstration.” This study will include a review of the data to verify whether there is an alternative source, an error in the sampling or analytical method, or natural variability in groundwater quality. Fact Sheets will be published periodically to provide information on the groundwater conditions and next steps as TVA continues to follow the CCR Rule.

TVA has a long-standing commitment to protecting the people and natural resources of the Tennessee Valley. TVA is committed to a clean water supply for our region, and cares deeply about the quality of the water resources we manage.